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ABSTRACT

The concept "learning to learn" assumes that teachers help students develop study skills and that students are encouraged to use higher order cognitive strategies. Fifty-four teachers of Dutch and mathematics in five secondary schools in Flemish Belgium were interviewed regarding their subjective interpretations of "learning to learn" and how they implemented it in their classrooms. Data from interviews with 51 teachers were used. Data analysis showed that 22 teachers used "learning to learn" in a supportive mode as a means to obtain better student results, and they tended to limit their instruction to tips and advice in advance of exams or tests. Fourteen teachers used learning to learn in a remedial mode, as a means to solve problems as they occurred. Both of these groups of teachers viewed students are passive participants in their education; they did not consider teaching students how to learn as part of their task. Only 15 teachers used learning to learn in a developmental mode and endeavored to help students develop attitudes and skills that are important outside the classroom context, as well. A preliminary conclusion was that teachers' views of "learning to learn" are related to the way schools and curriculum requirements view the concept. (Contains 48 references.) (JLS)

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ED 407 385

'LEARNING TO LEARN': HOW DO TEACHERS DIFFER?

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Introduction

Public interest for 'learning to learn' is recently considerably increasing in the Flemish educational community of Belgium. One may say that 'learning to learn' is "in". Educational "experts" agree that teachers should help students how to study and that students should be urged to use some higher order cognitive strategies (Blumenfeld, & Meece, 1988). Despite this general consensus, 'learning to learn' turns out to be a very difficult goal to achieve. By taking a close look at the concept 'learning to learn' in the daily classroom one has to conclude that no real consensus exists about what schould be achieved and how it should be implemented. Actually, teachers are using 'learning to learn' in many different meanings and it is being implemented in many different variations. In this study we interviewed 54 secondary school teachers about their subjective interpretations of 'learning to learn' and how they implement it in their classrooms[1]. One purpose of our study is to give an overview of the diversity of meanings teachers have about 'learning to learn' and the actions they develop consequently. We have distinguished two groups of teachers according to their vision on 'learning to learn'.

Theoretical framework

In the recent past the way how 'learning to learn' should be implemented in daily schoollife, has been under discussion. One option is to give isolated courses (i.e. courses outside the context of the classroom) about study skills. The effect of such courses has been seriously questioned. Some studies believe they are efficient (Biggs, & Rihn, 1984), others prove they are not (Ramsden, Beswick, & Bowden, 1986). Such courses would be limited to some general advice and tips (Gibbs, 1979; 1981) or to the training of techniques and strategies (Derry, & Murphy, 1986; Gibbs, 1981) which both result in a small or even no effect. There also exist some doubts about the occurrence of transfer. Students might consider these courses as isolated from their regular courses and might not make any connection with their daily way of studying (Simons, 1987).

Nowadays the educational community agrees that 'learning to learn' has to be embedded in the regular courses and that each teacher in his/her courses should pay some attention to the way the subject material has to be studied (Elshout-Mohr, 1992; Ramsden, Beswick, & Bowden, 1986; Simons, 1987; Vermunt, 1989). The advantage is that students can exercise with the regular subject material and that by doing so one can avoid to some extent the transfer problem. Therefore it is important that all teachers pay some attention to 'learning to learn' in their regular courses.

The difference between the "isolated" and the "embedded" way of 'learning to learn' is related to the place 'learning to learn' has taken place: outside or inside the daily courses.

[1] In this paper we concentrate on the micro-level, i.e. the level of the classroom. In our study the school level and the level of the students is also taken into account.

On the other hand, the absence of an effect concentrate on the way 'learning to learn' is worked out. But we think it is not the context that is important (such as is the focus in the literature), but how 'learning to learn' is used by the teacher and practised by the students. As well as in the isolated approach, as in the embedded one, teachers can limit theirselves by giving only some general advice, vague learning tips or train students in the use of some techniques or strategies in the context of a regular course. If this is the way a teacher works on 'learning to learn', the same limitations as for the isolated approach will apply. In order to obtain a real embedded approach, both the teaching process and learning the students how to process the material has to be integrated in the same set of activities.

We believe that within the context of regular courses, 'learning to learn' can be operationalized in different ways, and that it is not the difference between isolated and embedded approach that has to be emphasized but the way teachers are putting 'learning to learn' in practice. We link the different ways of operationalizing 'learning to learn' to a broad or a narrow vision teachers have on 'learning to learn'.

Broad versus narrow vision of 'learning to learn'

'Learning to learn' should include more than merely giving some techniques and strategies to process the subject material (Hounsell, 1979). "One conception (the narrow one) tends to emphasise the acquisition of skills and is concerned with means, or techiques; the other ('learning to learn' in the broad sense) tends to emphasise an awareness of purpose, and is concerned with ends, and the individual's relationship to those ends" (Hounsell, 1979, p. 461).

The difference between broad and narrow sense of 'learning to learn' is especially based on the goal towards which one is directed. According to a narrow interpretation of 'learning to learn', teachers concentrate exclusivily on study skills, strategies and techniques. On the other hand, the aim of 'learning to learn' in a broad sense is to promote the use of higher order cognitive skills, such as problem solving and information processing strategies. These teachers are professionally satisfied when learning, for their students becomes a goal on its own and is not considered by them as a means to achieve some particular objectives. These teachers want their students to become lifelong learners.

The broadening of the concept is closely connected with a different conception of the learning process itself. Learning in the broad sense of 'learning to learn' will be considered "as an intensely personal activity characterised by a search for meaning and understanding" (Hounsell, 1979, p. 461) and also as an active and constructive concept (Shuell, 1988). Learning in the narrow sense of 'learning to learn' is conceptualized a an accumulation of facts which one has to gather.

These two visions about 'learning to learn' are closely connected to different functions Van den Houte (1992) distinguished. According to Van den Houte (1992) 'learning to learn' can be used to fulfil three different functions. First there is the supportive function of 'learning to learn'. The teachers who use 'learning to learn' in this function, consider strategies and techniques as a means to help students to process more efficiently the subject matter taught in the classroom. Here the ultimate goal of 'learning to learn' is to improve the

students' results on exams and tests. The aim of teachers who use 'learning to learn' in the supportive way is to acquire better grades. The second function according to Van den Houte (1992), is the remedial one. The aim for these teachers is to solve and remedy some problems. When problems occur, 'learning to learn' is considered as a means to solve the problems.

At last in the developmental function, 'learning to learn' is used to learn how to process new information. In this sense 'learning to learn' is not restricted to learn how to process the subject matter which is taught in the classroom. Teachers relying on this method, pursue to make their students familiar with information processing or problem solving strategies so that they can solve new problems on their own, or process new information. They want their students to enjoy learning and to be intrinsically interessed in what they are studying. These teachers direct their students towards obtaining some higher order cognitive skills.

'Learning to learn' in the narrow sense emphasizes the supportive and remedial function, while the broad sense is associated with the developmental function.

The broadening of the concept of 'learning to learn' could be due to "a shift towards more student-centred teaching" (Hounsell, 1979, p. 467). This fits into the "restructuring movement" (Murphy, 1991; 1993). Beside "school-based management" and decentralisation, the roles of teachers and students were reformulated. In the past the role of teacher was to provide some information to the students. This has changed into the role of facilitator of the learning process of students (Cole, 1990; Heck, & Williams, 1984). There is a shift from knowledge transmission to learning facilitation (Gow, & Kember, 1993). In pursuance of this theory the students are now being considered as "active constructors of their own understanding" (Murphy, 1993, p. 12) instead of passive absorbers of the material. All this implies that " the traditional emphasis on acquiring information is replaced by a focus on 'learning to learn'" (Murphy, 1993, p.13). Despite the fact that the second "reform" movement (i.e. the restructuring movement) took into account the changing roles of teachers and students, it was focused on "school-based" management" and decentralisation. "What was missing... was a clear vision of what school experiences should be for students" (Miller, 1995, p.2). In the third "reform" movement these aspects have been underlined. The learning process got a central role. "This emphasis on student learning and new forms of instruction and assessment has been termed the 'third wave' of school reform" (Miller, 1995, p.2).

Our study

In the school year 1994-1995 we did a first study in five Flemish Secundary Schools (for an extensive review of the design and the sample see Struyf, Waeytens, Vandenberghe, & Lens, 1995). In this study we focused on the first and second grades (ages 12 to 14) and the fifth and sixth grades (ages 16 to 18) of secundary school. We concentrated on those two groups because we expect these grades to be a determinative factor for the way 'learning to learn' is implemented. We have taken also two subjects into account: Dutch and mathematics. We were interessed in potential differences between these two subjects.

All the school's principals, 54 teachers (who teach Dutch or mathematics in grade one - two

or in grade five - six) and 557 students participated[2].
At the micro level (i.e. for the teachers) the 54 teachers were interviewed. Each interview took approximately one hour and a half. During these semi-structured interviews we asked them how they implement 'learning to learn' and try to collect information about their personal opinion about 'learning to learn'. The interview started with questions about their task. Do they think 'learning to learn' should be an important part of their task? Further we wanted to know what they exactly do when they organize activities related to 'learning to learn', which strategies they learn the students, and how they exactly teach their students how to learn.

Each interview was tape-recorded and transcribed. In accordance with our theoretical framework we started by searching for indications for the different functions in each interview. But for two teachers, each teacher was placed into one of the three groups according to the function they give to 'learning to learn'. After the assignment to the different groups, we investigated if the narrow vision group (i.e. teachers with the supportive together with teachers with the remedial function) and the broad vision group differ from each other with respect to their views of the teachers' and students' roles, and the learning process (see the theoretical framework). Going through the interviews other differences between the two groups appeared also.

Description of the two groups: Broad and narrow sense of 'learning to learn'

Hereafter you will find a description of the narrow vision group followed by a description of the broad vision group. As there are two teachers from whom can be said that they pay no attention at all to 'learning to learn', all data refer to 51 teachers[3].

[2] Because the broader goal of our research was to investigate the influence of the way 'learning to learn' is implemented in schools and classrooms on the motivation and learning strategies of students, the students had to fill out some questionnaires. Also we wanted to know if the teachers' personal opinion and the way teachers implement 'learning to learn' is influenced by the attention paid on it on the level of the school. Therefore we interviewed the pricipals. In this paper we will concentrate on the level of the classroom because this can be considered as most important in the embedded approach.

[3] Beside the two teachers who don't give attention to 'learning to learn', from one teacher because of technical reasons we don't have the interview at our disposal.

Teachers having a "narrow" vision

Starting point was to group teachers who implement 'learning to learn' in a supportive way and teachers who focus on the remedial function of 'learning to learn'.

Supportive function

22 of the 51 teachers use 'learning to learn' in a supportive way. These 22 teachers do not differ from each other regarding the grade nor the subject (χ^2 (1) = 2.028 < 3.84; p = 0.05). In four schools (school 1, 2, 4 and 5) half of the teachers, belong to the supportive group; in the other school (School 3) only one third of the teachers do. The number of teachers who give a supportive function to 'learning to learn' do not differ (statistically) among the schools (χ^2 (4) = 1.636 < 9.49 ; p = 0.05).

Those teachers who are in favour of the supportive function, try to influence the learning results of their students. Van den Houte (1992), who ascertained these three functions, also considered a preventive aspect related to these function. 'Learning to learn' is used to prevent some problems which might occur.

'Learning to learn' is used here not as a goal on its own, but as a means to obtain better students' results. The satisfaction of these teachers is determined by the results students obtain on tests. One teacher answered on the question "When do you feel satisfied about your task on 'learning to learn'? the following: *"I think I'm satisfied when they can solve the tests which follow. Then they know it, I believe."* 'Learning to learn' for these teachers is limited to mere tips and advice given in function of the preparation of examinations or tests. *" It's only logical that you paid some attention on it, isn't?. Telling them, when there will be a test: 'You are going to study the test on that way.'"* 'Learning to learn' will become important when students obtain bad results. *"Yes, especially when there is a bad test, then there is really some need to and then I give 'learning to learn' about a certain part of the subject material."* The preventive aspect has only been mentioned by two teachers. Those two teachers use 'learning to learn' to prevent some problems which might occur. All teachers give some tips and advice concerning how students have to process the subject material. 'Learning to learn' is limited to the processing of the material given in the classroom[4]. *"I give them some advice about the first courses: 'How will you process what we just have seen?'"*. It can be said that such teachers are achievement oriented[5].

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[4] By reading this one can ask what is so special about it. It is by reading through the description of the other groups of teachers that will become clear, that there are important differences in comparison with for example the developmental group. Those teachers didn't want to obtain better results but refer to higher order cognitive strategies (see below).

[5] We can also expect that these teachers because they are oriented to the results of students, will induce their students to be achievement oriented. Achievement orientation is one of the two components of goal-orientation. Goal orientation is one of the variables we investigated on the level of the students. The concept "goal orientation" refers to the goals someone can strive for when studying. We make a distinction between task orientation and achievement orientation. Task oriented students are motivated to learn and to increase their own knowledge and competencies. They want to improve and master challenging tasks. By contrast, the first concern of achievement oriented students is getting high grades. Succes means to be better than others (Ames, 1992, Elliot, & Dweck, 1988, Nicholls, 1984; Pintrich, 1989).

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Remedial function

14 teachers (out of 51) use 'learning to learn' in a remedial way. We ascertain that there is no association between grade or subject and the remedial function (χ^2 (1) = 0.40 < 3.84 ; p = 0.05). As well as in the supportive group, it can be said that half of the teachers of schools 1 and 4 are remedial oriented. A minority of the teachers of schools 2, 3 and 5 can be characterized as remedial. Despite these differences there is no statistical difference between the schools with regard to the number of remedial oriented teachers (χ^2 (4) = 5.99 < 9.49 ; p = 0.05).

These teachers use 'learning to learn' as a means to solve problems which occur. 'Learning to learn' is almost always limited to these moments when some learning problems occur. *"I find that ('learning to learn') a good approach in the case of problems (...) but not isolated from problems which there might be."* If these teachers notice that their students are studying in a wrong way, they would give them some hints about how to study the learning material (in a right way). *"If you notice that they have studied it totally in the wrong way or if a test... Sometimes you notice that it is due to the fact that they have studied it all wrong. Then I will explicitly say: 'Look, you have done that and not that'. There I will ask some attention for, but of course not for hours."* The remedial oriented teachers pay attention to 'learning to learn' on an occasional base. Problems are sometimes detected through the results the students obtain on tests and examinations. These teachers will also work on 'learning to learn' in function of tests (see supportive function).

We may conclude that it is sometimes difficult to make a distinction between the supportive and remedial function of 'learning to learn'. Both groups consider 'learning to learn' not as a primary goal (see below). While the supportive group of teachers focuses on the results, the remedial group wants to get rid of the problems. In some way, one can say that the remedial group is also directed towards the results of the students. In this group, as well as in the supportive one, we find some indications that 'learning to learn' is mostly linked to future exams and tests. These teachers also use the obtained results as an indication for how much attention must be paid on 'learning to learn'. In compliance with the theoretical framework these two groups of teachers are expected to be similar for a number of variables. Below we will take the supportive and remedial groups together, and consider them as the group which have a narrow vision about 'learning to learn'.

'Learning to learn': something for younger and weak students

According to these teachers' opinion 'learning to learn' is especially intented for younger (i.c. students of the first and sometimes second grade) and weak students. For the other ones (i.e. the smart and older ones) 'learning to learn' doesn't seem to be necessary. This view can be better understood by taking into account the supportive and remedial function. As both of these groups of teachers consider 'learning to learn' as a means to obtain better results and/or to remedy some problems, the degree in which one gives

attention to 'learning to learn' is associated with the occurence of problems and the obtained results. If students obtain good results and there are no problems, it is not necessary (for these teachers) to pay attention to 'learning to learn'. *"I have the impression that smarter students do rather not need 'learning to learn' and will find a way on their own to organize the material they have to study, but the majority of the students, and I think especially on (that particular group)*[6] *where the students are less smart than in other groups, do need to be lead in the way they should work and study and execute some tasks."*

'Learning to learn' is for these teachers exclusivily meant for younger students and more specific for students of the first and second grades. *"Yes, I think that I would pay more attention in the first two grades, and one may expect that in the last grades, if the students would have reached those grades, that they will find a method on their own."* As this teacher said, older students (in our case students of the fifth an sixth grade) do not need someone to tell them how they have to study. These students may be expected to already know how they should study. A teacher of the sixth grade said: *"I think it is correct, to say that it is the task of a teacher to learn how to learn beside the transmission of subject material, but I think it should be done in the earlier grades. In the sixth grade they should know how to do it."*

Teachers being responsible

These teachers believe students are not capable to organize their learning activities by themselves. No important result can be expected from them. These opinion is shared by teachers of the first grades as well as by teachers of older students. Students are considered to be dependent, passive and helpless (according to these teachers). These opinions are confirmed in the literature (Ashton, & Webb,1986; Davies, 1983; Keiny, 1994). Inbar (1996) reports that teachers have a tendency to see the students as helpless and dependent. For that reason, teachers will take over a lot of activities from the students. Shuell (1988) has distincted a number of learning functions which can be executed both by teachers as by students. For instance, a teacher might indicate the essence of a course or students might do. All the teachers who have a narrow vision about 'learning to learn' have a tendency to take over all or most of the learning functions[7]. For example, one teacher gave the following response on the question if he taught the students to relate different courses with each other[8]: *"Not really, because I think I tell them already what the relationship is."*

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[6] Because we are combining the data of the teachers with the data of students of one particular group, teachers were asked to focus on that group during the interviews. All data are with respect to that particular group.

[7] By a number of teachers (15 in total) we found also indications that they let the students do some of the learning functions. But this is limited to one or two things and there are indications that they themselves take over a lot of learning functions.

[8] In the interview we confronted the teachers with a sample of learning functions. For each of these we asked whether the teacher or the students (or together) performed the functions.

Hamilton and Ghatala (1994) and Simons (1991; 1996) described this also. According to Simons (1991; 1996) this could be due to the fact that the teachers do not trust the students (as we found here: a lot of teachers pointed to the fact that they take over the learning functions because the students are not capable of doing it by their own). Another explanation Simons gave (1991; 1996), was that teachers are afraid for loss of quality when they do not steer the students. These teachers indicated the way students have to study. They believed they have to "say" how to study and process the learning material[9]. *"Because I tell them not to study page by page, but in its whole."* These teachers define "teaching" as transmitting as much information as possible and "learning" as absorbing that information[10]. In all interviews we found indications to "telling" or "indicating",... *"DO YOU PAY SOME ATTENTION ON HOW THEY HAVE TO STUDY THE LEARNING MATERIAL? Yes, I do. If part of the subject material is done, I tell them: 'I want that you know it in that way'. And I tell them almost where I put the stress on. . I tell them how they have to process it and so on."*

This teachers show a very great correspondence with one of the simple theories of Fox (1983) and with the first theory of teaching as described by Ramsden (1992). Teaching in this theory is definied as "telling or transmission". Teachers consider themselves as real experts in their subject. The first simple theory of Fox (1983) is called the transfer theory. Teachers define "knowledge as a commodity which can be transferred, by the act of learning, from one container to another as from one location to another" (Fox, 1983, p. 152). Teaching means merely transmitting information. Essential point in these simple theories is that the teachers are totaly in control of the teaching and learning process.

Task: 'teaching to learn' as minor importance

'Teaching to learn' is something of minor importance for these teachers. It is not considered as an essential part of their task. It is a method to achieve a certain goal and not a goal on its own. In our interviews we have confronted the teachers with the following statement: " From a teacher can be said that he / she has a double task: teaching the students how to learn and presenting the content" (cfr. Gow, & Kember, 1993; Weinstein, & Mayer, 1986). The teachers were asked to indicate which they consider as their most important task. A number of teachers admit giving as much content as possible is most important to them. *"Yes (my most important task is), in the first place to impart knowledge"*. Prawat (1989, 1992) described the link between the defining of teaching as a transmission of information and feeling pressure from the curriculum. All the teachers, except four reported to have not enough time for 'teaching to learn'. They experience a strong pressure from the curriculum. It is so overloaded that there is not any time left. *"We have a rather extented curriculum for*

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[9] This will be better understood when it is contrasted with the way teachers with a broad vision to 'learning to learn' work. As will be described later, some of these teachers let the students tell how they learned something.

[10] We found also some teachers with a contrasting opinion, especially with the opinion such as expressed by the developmental oriented group.

math. So we have to go on, and on. The curriculum is in fact overloaded. Therefore actually I pay only very little attention on 'teaching to learn'". Beside the group of teachers who stressed knowledge transmission, a lot of teachers found both tasks equally important. 'Teaching to learn' is for these teachers a means to teach how to process the content. They consider 'teaching to learn' in itself as not important. *"Oh, both tasks are equally important (...) I find it important to help the students and to provide them with tips how to process the subject material at home."* Other teachers take interest in 'learning to learn' because the students are weak (cfr. supra) and because the curriculum is not too extented. Therefore there is time left for 'teaching to learn'. From these statements we may conclude that for such teachers 'teaching to learn' is something of a second order. These teachers pay less attention to 'teaching to learn' because the knowledge in that particular class is less important. So as McKeachie (1988) indicated, for most of the teachers helping students how to learn, is not considered as part of their task[11].

Teachers having a "broad" vision

15 teachers use 'learning to learn' in a developmental way. No difference exists in the number of teachers in respect to neither the subject nor the grade in which they teach (χ^2 (1) = 0.74 < 3.84 ; p = 0.05). Half of the teachers of schools 2, 3 and 5 belong to this group. No teacher of School 1 and only one teacher of School 4 can be considered as developmental oriented. But despite this difference in number of teachers related to the different schools, no statistical difference exists (χ^2 (4) = 7.99 < 9.49 ; p = 0.05).

Developmental function

Teachers who use 'learning to learn' in a developmental way endeavour to develop attitudes and skills which are also important outside the school and classroom context (Van den Houte, 1992). Some of them try to achieve that students have interest for the subject matter. For instance one teacher answered the question: " When do you feel satisfied about your task related to 'learning to learn': *"If you can induce some interest, and especially some motivation. That seems to me to be more or less important."* Other teachers are striving to teach their students some thinking skills. These teachers only feel satisfied if they manage to teach their students a certain way of reasoning or thinking. These teachers underline that imparting knowledge is less important. *"The most important, is of course, not the accumulation of knowledge, as they can find it elsewhere, but that they learn to work with insight, that they can use their brains."* For other teachers (all teachers of math) the most important goal is to teach the students problem solving skills. Nowadays the latter opinion is considered as an important goal for schools in our society. Students should be taught how to solve some problems because of our complex and fast changing society (Eisner, 1979; Heck & Williams, 1984). *"I don't know if that is what is being called 'learning to learn'. Because that makes me always think of: how to acquire knowledge? For math it is also:*

[11] At least we find two teachers who consider 'learning to learn' as an essential task. Those two teachers make time for it.

how to search a solution for a problem." For those who teach Dutch, 'learning to learn' means also providing students with some information processing strategies. Many teachers regard 'teaching to learn' also as learning the students how to process new information, i.e. information which is not dealt with within the classroom. This seems to be important right now because of the overload of information. It becomes more and more important to know how to process new information. These teachers strive to teach something to the students which may be also important outside the classroom. They want to give their students some skills which they can use later on in their daily life. The importance of 'learning for learning', learning as a goal on its own is emphasized.

'Learning to learn': a peronal growing process

These teachers consider 'learning to learn' as a personal and continuing process which means that each student has an personal way of studying and that this is developing idiosyncraticly. The optimal way of studying does not exist and one has to take the individual differences in the study behavior into account (Hounsell, 1979; McCombs, 1995; Prawat, 1992; Schmeck, 1988). *"There is always the fact that some has to write while others has to talk aloud. It isn't possible to treat the whole class alike. I always tell them to search by themselves. I may say what is easy for me, but another child does not have to agree with that."* Therefore teachers try to motivate the students to develop a personalized way of studying. The teacher will not say how to study but the students has to search it out for their own. The teacher has to act as a guide (Fox, 1983) or as facilitator of the learning process (Heck, & Williams, 1984). *"I let them search their own system. I don't find that we should impose all that. I'm not a saint. I'm not going to say how it should be done. No, it's important that they search also."* Teachers don't believe they have to behave as experts.

Another facet is that - in contrast with the narrow group - 'learning to learn' is seen as something that should occur not only in the first grades but also in the latter ones. In these grades there has to be studied in another way and there should be some attention on 'learning to learn' also. *"Do you believe students in the last two grades need someone who is telling them how to learn? Yes, of course. Especially because it evolves. (...) They have to be guided."*

Students being responsible

For these teachers the responsibility for certain learning activities and for the learning process is removed from the teacher to the students. The students are considered as active (Cole, 1990; Prawat, 1989).

Most of the learning functions (Shuell, 1988) have been passed into the hands of the students. These teachers let the students make schemes or let them take notes by themselves instead of doing it for the students. *"If it's necessary that there are some schemes, it is my belief that you have to learn them to do it by their themselves."* [12] The

[12] Six teachers mentioned that they conduct some learning functions theirselves. Beside that, they will leave some learning functions to the students.

students are considered as to be able to implement important cognitive strategies by themselves. The role of the students is changing from passive recipients of knowledge to active processors (Bonk, Oyer, & Medury, 1995; Brown, 1994; Phillips, 1995). If one wants to induce the students to the use of higher order cognitive strategies, the students should have the possibility to participate in teaching and learning activities in an active way (Blumenfeld, & Meece, 1988). The contribution of the students should be valued at its true worth (Prawat, 1989). In contrast with the narrow vision group, these teachers do not, explain to the students how they should study; they let it come from the students themselves. Learning is considered to be most efficient when the students have the possibility to learn from each other. According to these teachers students will learn more from each other than from the teacher. *"Sometimes I'm having discussions with the students during the courses and then I ask them how they have done it (learning a part of the subject matter). WHY DO YOU CONSIDER IT AS IMPORTANT THAT THESE STUDENTS SAY IT IN THEIR OWN WORDS? Because I have the impression, that students sometimes develop new methods on their own and I believe that students who have difficulties, will accept easier something from another student than from me."* When students can explore and find out things, they will learn more efficiently. *"I try to let the students explore a lot of things. I'm not always saying: "This is most important." Because then it is only more knowledge. They only memorise the most important. From time to time I let them discover which formulas are really important."* Beside, these teachers also emphasize the importance of collaboration between the teachers and the students. *"In the last grades, I consider teaching as a cooperation so that they are prepared for higher studies. It is not like... and that I don't want that they follow exactly what I'm going to say. I want them to be critical. It is more like a cooperation."*

These teachers can be categorized into the second and third regime of education (Boekaerts, & Simons, 1993). In the second regime there is a division of tasks between the students and teachers, while in the third regime the responsibility is totally on the side of the students[13].

These teachers are considered to have a developed theory about teaching as described by Fox (1983). In his developed theories students are considered as partners in their own learning process. Fox' first developed theory, the "travelling theory" has a lot of a similarities with what has been mentioned here. The teachers are guides, who show the way and indicate the right direction. Teaching is like travelling and a subject is like one of the many scenes one can explore. The guides may help the students exploring but they can't do it for them. "Education is a journey. But it is a journey of exploration, not a direct trip from A to B. The teacher is a local guide and equipment supplier, not a coach driver on a packaged tour" (Fox, 1983, p. 157). Also the third theory of teaching of Ramsden (1992), "teaching as making learning possible" is analogous. Teaching for these teachers means to cooperate with the students in order to induce real

[13] In contrast the narrow group of teachers should be placed into the first educational regime for these teachers take over all the control.

"understanding". Students have to be involved in an active way in their own learning process.

'Teaching to learn': a substantial part of their task

The development of learning strategies has to be a substantial part of the job of teachers (Ramsden, 1988). It can not be considered as a residual to teaching, but as a goal towards wich education must be directed. According to this, teachers who have a developmental function of 'teaching to learn' consider it as an essential part of their job. By choosing between the two tasks, a lot of these teachers point 'teaching to learn' out as most important. *"I even find 'teaching to learn' more important than knowledge."* Because knowledge is relative, it can be lost, or because knowledge can be grasped everywhere, 'teaching to learn' is more important for these teachers in comparison with providing knowledge (Eisner, 1979; Keiny, 1994; Prawat, 1992). In our society it is more important to know how to process information than to know as much facts as possible. The overflow of information and the increasing importance of communication might be a possible explanation for this (Fruithof, 1989). *"It (the attention to knowledge and 'teaching to learn') should be fifty-fifty. That is my strong belief. It should even be more (to 'teaching to learn') because you can be informed about the rest by encyclopedia, video and other media."*[14] The majority of these teachers do not experience problems regarding the time for working about 'learning to learn'. A number of teachers make time for it, for these teachers are not directed towards facts, but towards giving their students some methods of processing knowledge. Other teachers do not feel like making time for it because they do not feel bounded by their curriculum.

General discussion

General description of the two groups

From only two teachers (out of the 53) can be said that they do not pay attention at all on 'learning to learn'[15]. Almost half of the teachers use 'learning to learn' in a supportive way (22 of the 53 teachers). The other half is spread over the remedial oriented group (14 of 53) and the developmental oriented group (15 of 53). If we consider the groups according to the vision they have about 'learning to learn', it is obvious that the narrow vision group predominate (as this group contains the supportive and the remedial oriented group). 68% of the teachers are having a narrow vision about 'learning to learn' compared to 28% who

[14] Beside there are three teachers who say they find 'teaching to learn' as important as providing some knowledge. These two things are interconnected and can't be seen separated. Two other teachers will focus on giving knowledge and this because from a lot of students in their classroom can be expected that they in the next year will take part if an entrance examination for a particular university study ("engineering").

[15] This should be considered with care. As we talked for more than one hour with the teachers about 'learning to learn' the possibility exists that we have a somewhat biased picture, the schools know on forehand that the research was about 'learning to learn'. So our sampling could be biased in some extent. Schools who have special interest in this topic, could be more willing to cooperate than others.

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have a broad vision.

Beside that, we would like to know if the schools differ from each other in respect to the number of teachers who have a supportive, remedial or developed function, or a broad versus narrow vision on 'learning to learn'. This is important, because we expect that the school policy regarding 'learning to learn' will have an effect on the way teachers work on it (see also Ashton & Webb (1986) and Raudenbush, Rowan, & Cheong (1993) for evidence about the influence of school characterics on the way teachers define their job and concentrate on higher order cognitive goals). As described above, the different functions did not differ among the schools with respect to number of teachers. If we concentrate on the groups based upon the two visions on 'learning to learn', we find some differences between schools (χ^2 (4) = 12.08 > 9.49; p = 0.05). In two schools (School 1 and 4) the majority has a narrow vision about 'learning to learn' (all teachers from the first school and 11 of 12 teachers of the fourth school). In the three other schools, the teachers are more equally spread over the two groups. In a following phase of our study we have to connect the information we have gathered about the school level with these differences.

It could be that the subject taught by the teacher had an influence on the way teachers think about 'learning to learn'. Stodolsky (1993) argues that teachers have different opinions according to the subject they teach. These opinions could determine the assumptions teachers have about teaching and learning. Also the grade might have a determinating effect. From teachers who teach in the first grades could be expected that they will give less responsibility to their students. For no group there was evidence for these assumptions (for the division of functions see above; for the visions: (subject χ^2 (1) = 1.456 < 3.82; p = 0.05) and (grade: χ^2 (1) = 1.517 < 3.84 ; p = 0.05)).

At last we will look for a relationship between the number of years of teaching experience and the teachers' vision on 'learning to learn'. Huberman (1988) connects the age of teachers with how innovations are valued. Older teachers will value innovations less positive than younger ones. More experienced teachers will agree more with the developed theory of Fox (1983) than less experienced teachers (Sheppard, & Gilbert, 1991). Taking into account the similarities of the developed theories with the broad vision of 'learning to learn' we may expect a difference between the numbers of years of teaching experience between the two groups. The average age of experience of the narrow group is 22.75 years, the broad group have a mean of 18.6 years of experience. There is no statistical significant difference (t (49) = 1.6, ns).

General discussion

'Learning to learn' is a concept which is in the air in the Belgium educational society. It is striking to see that to this concept so many meanings are given and that these meanings determine the way one implements 'learning to learn' activities. The majority of teachers have a narrow sense of 'learning to learn'. 'Learning to learn' is limited to tips and general advice which is mostly given to younger students (cfr. Hounsell's distinction between study skills and 'learning to learn', 1979). A minority of teachers have a broader vision of 'learning

to learn'.

We succeeded to distinguish two groups of teachers on the basis of the functions they use 'learning to learn' for and the meaning they give to that concept. These two groups are identical (for a number of variables) with other distinctions made in literature, such as Davies' division into teachers with Theory X and theory Y (1983), Foxs' one with the simple and developed theories (1983). All these theories concern general assumptions such as the teaching process and the roles of students and teachers. We succeeded to provide a link with these more general "theories" and the way teachers think and actually use 'learning to learn'. Of those general opinions can be said that they have direct consequences for the way teachers pay attention to 'learning to learn'. We go along with Brown when she points out that "school practices are influenced by outmoded theories of learning and development that are relics of psychology's behaviorist past. (...) The new theories are making little headway at influencing school practices" (Brown, 1994, p. 11).

The fact that the majority of the teachers have a narrow vision could be related to the way of working and thinking about 'learning to learn' at the school level. In the secondary schools a tendency exists to limit the 'learning to learn' activities to the first grades. So many isolated courses are only intended for students of the first or second grade and if there are some activities for the teachers, it is mostly directed towards teachers who teach younger students. In our sample of schools we have also examples of schools where there were some isolated courses but only for students who were assessed as "weak" students. This could be one possible explanation for the tendency of having a narrow vision about 'learning to learn'.

The next step in our study should make the link between the differences between schools as far as the vision about 'learning to learn' is concerned, the way 'learning to learn' is implemented at the school level and the vision teachers have.

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